



Department of Energy and  
Environmental Protection

September 21, 2021

# 2018 Connecticut Greenhouse Gas Emissions Report

Governor's Council on Climate  
Change Briefing



# Highlights



Economy-wide emissions were 42.2 million metric tons (MMT) of carbon-dioxide equivalent (CO<sub>2</sub>e) in 2018 — a decrease of 7.3 percent since 1990 and 17.8 percent since 2001, although a slight increase over 2017 emissions. Emissions in 2018 indicate that the state is not on track to meet statutorily-required emissions reduction targets for 2020 and 2030.



Transportation-sector emissions in particular remained stubbornly high, despite significant historical improvements in fuel economy. In contrast with other major sectors — especially the electricity sector — transportation-sector emissions have risen since 1990, rather than fallen.

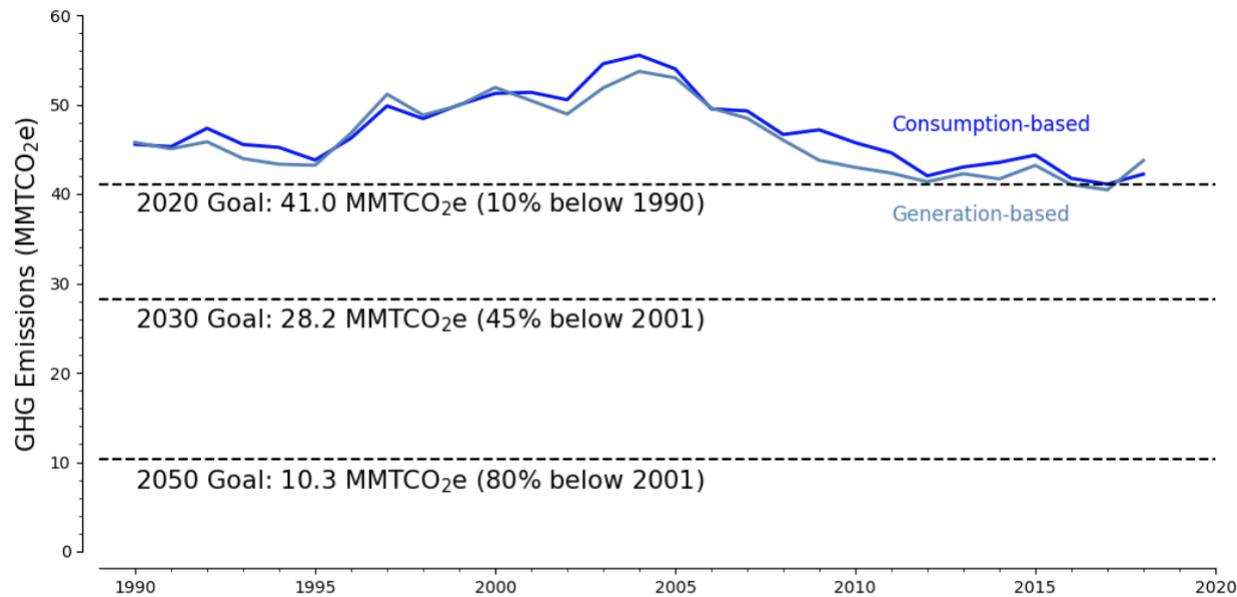


In 2018 as in previous years, the transportation, electricity, and residential sectors accounted for nearly three-fourths of Connecticut's GHG emissions.

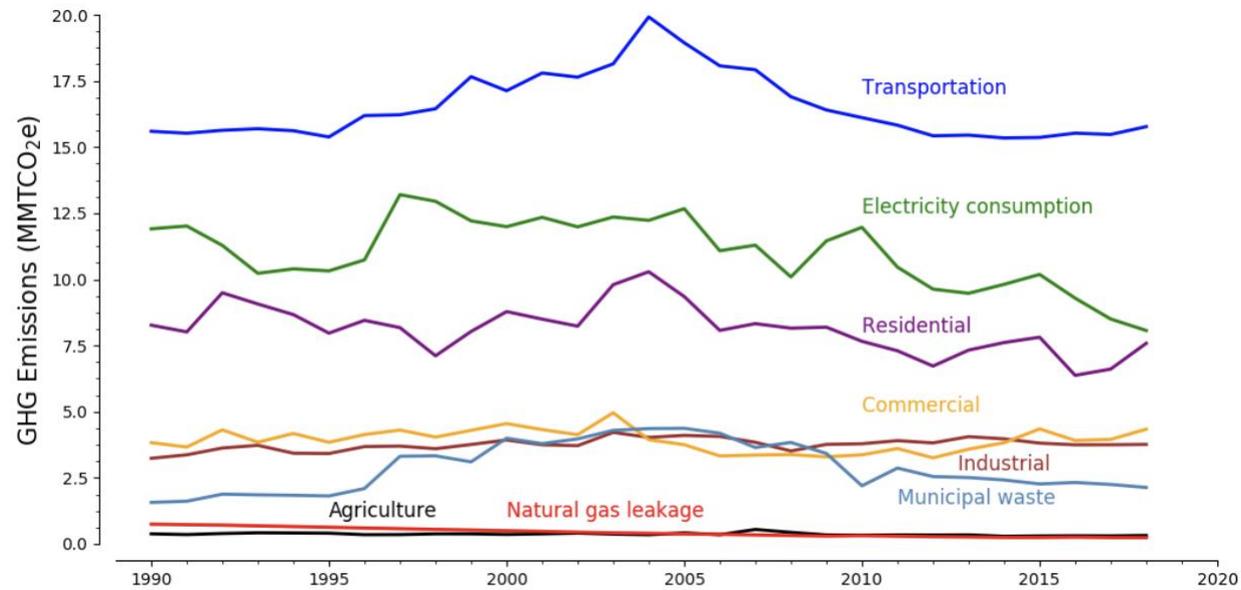


Initiatives in these and other sectors must be substantially accelerated for Connecticut to meet its 2030 and 2050 GHG emissions-reduction goals.

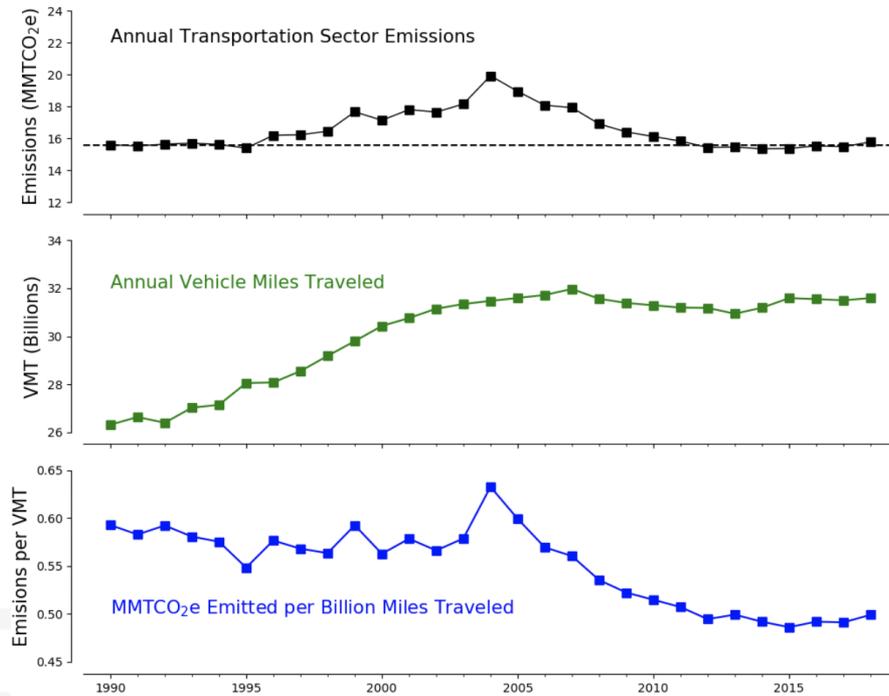
# Connecticut Greenhouse Gas Emissions From 1990–2018



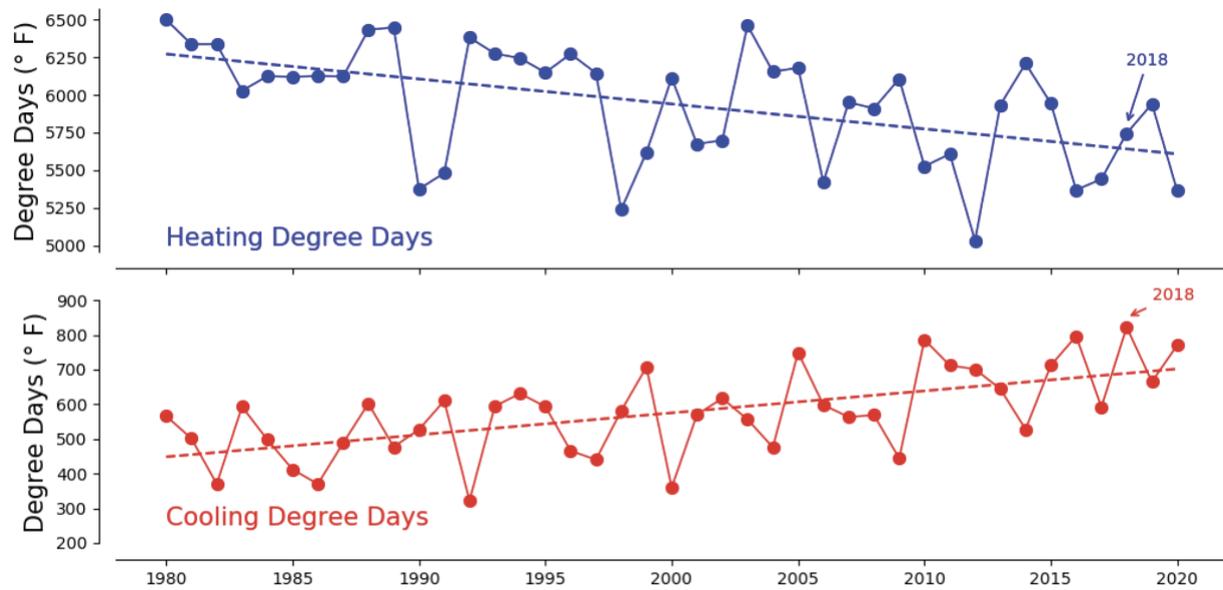
# Connecticut Greenhouse Gas Emissions by Sector



# Impact of Vehicle Travel on GHG Emissions



# Annual Heating and Cooling Degree Days



# GC3 Legislative Update





# ***Taking Action on*** **Climate Change and Building a More Resilient Connecticut for All**

**GC3** Governor's Council  
on Climate Change

Phase 1 Report: Near-Term Actions  
January 2021



# Snapshot of GC3-related legislation

This presentation provides a snapshot of bills that passed favorably out of committee, received a vote in the House or Senate or that became law in the 2021 legislative session that are related to recommendations of the Governor's Council on Climate Change.

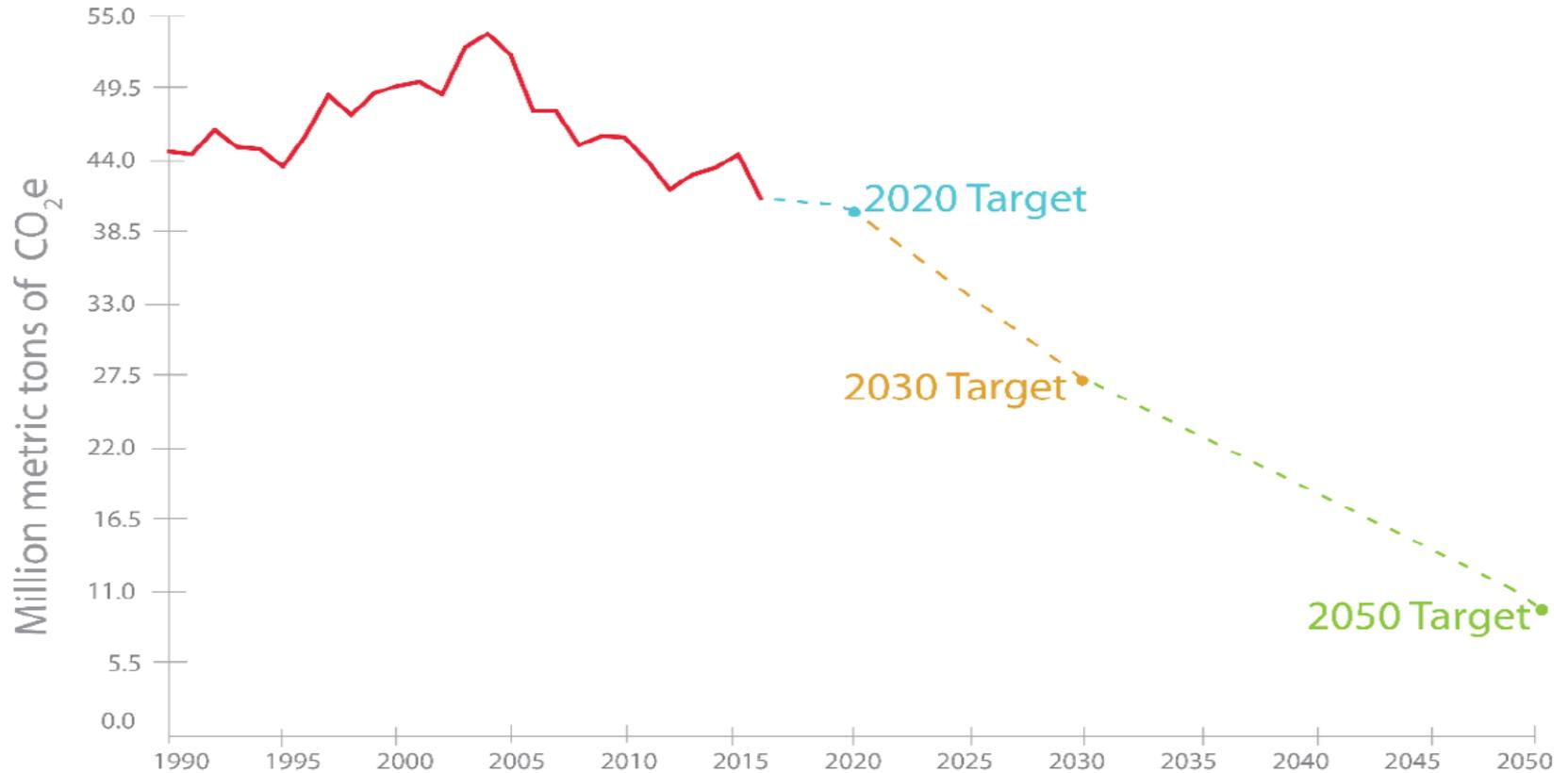
This is not an exhaustive list of climate-related bills considered by the legislature in the 2021 session. There were additional bills not covered here that relate to climate change.

Each slide provides a description of the bill and related GC3 recommendations.



# Climate Mitigation Legislation

## Connecticut's GHG Reduction Path



# Became law

- PA 21-448
  - AAC Establishing an Energy Efficient Retrofit Grant Program for Affordable Housing (SB 356)
    - award grants for installing energy efficient upgrades to affordable housing, including housing authority property, and
    - set goals for upgrades to affordable housing units, from 2021 to 2025.
- GC3 #3: Prioritize mitigation in vulnerable communities  
GC3 #7: Building heating and cooling energy conservation



# Became Law

- PA 21-139
- An Act Increasing Representation on the Energy Conservation Management Board (SB 856)
  - To increase representation on the energy conservation management board, including low-income residential customers and municipalities.

GC3 #3: Prioritize mitigation in vulnerable communities

GC3 #7: Building heating and cooling energy conservation



# Became Law

- PA 21-53
  - AAC Energy Storage (SB 952)
    - Establishes deployment goals, program requirements, and procurement authority for energy storage.
    - Energy storage deployment goals:
      - 300 MW by December 31, 2024;
      - 650 MW by December 31, 2027; and
      - 1,000 MW by December 31, 2030.
- GC3 #11: Commit at least 50 megawatts of demand reduction per year to the ISO- New England forward capacity market through reducing electricity consumption; transitioning to a focus on demand response; utilizing energy storage; and doing all of the above with a broader equity lens.

# Became Law

- **PA 21-43**
- **SB 999, AAC A Just Transition to Climate Protective Energy Production and Community Investment**
  - **For renewable energy projects with generating capacity of more than 2 MW developers must**
    - 1. establish a workforce development program;
    - 2. enter into a community benefits agreement, if 5 MW project; and
    - 3. ensure that the contractors and subcontractors on the project meet certain criteria.
  - **workers wages and benefits at least equal to those required under the state's prevailing wage law or be covered by a project labor agreement (PLA)**

GC3 #12: Achieve at least 66 percent zero-carbon electricity generation by 2030 through continued deployment of renewable energy sources and improved transmission and storage deployment, while creating green jobs



# Became Law

- **PA 21-58**
- **AAC Solid Waste Management (SB 1037)**
- requires DEEP to develop an incentive program to help municipalities that want to adopt a unit-based pricing program for solid waste disposal (e.g., “pay-as-you-throw”).

GC3 #15 Promote responsible and just materials management. Consider implementing the recommendations of the Connecticut Coalition for Sustainable Materials Management (CCSMM) to address both the climate impacts of waste generation and environmental justice concerns.



# Became Law

- **Special Act 21-9**
- **AAC Recycled Content for Products Sold in Connecticut (SB 928)**
  - requires DEEP to submit to the governor and the Environment Committee recommendations for (1) recycled content requirements for products sold in Connecticut and (2) multi-state coordination in developing the standards

GC3 #15 Promote responsible and just materials management. Consider implementing the recommendations of the Connecticut Coalition for Sustainable Materials Management (CCSMM) to address both the climate impacts of waste generation and environmental justice concerns.



# Became Law

- PA 21-159
- AAC Equitable Access to Broadband (HB 6442)
  - To promote broadband build-out in unserved and underserved areas through mapping and restoring statutory mandates, to streamline costly deployment processes, and to give the Public Utilities Regulatory Authority (PURA) additional authority to protect consumers.

GC3 #20: Advance initiatives that eliminate vehicle miles traveled (VMT) growth by 2030

- **Passed out of Committee**
- **AAC Food Waste Diversion and Anaerobic Digestion Facilities (SB 930)**
- To encourage the development of additional anaerobic digestion and composting facilities in the state that are available to divert food waste from the state's solid waste stream.

GC3 #15 Promote responsible and just materials management. Consider implementing the recommendations of the Connecticut Coalition for Sustainable Materials Management (CCSMM) to address both the climate impacts of waste generation and environmental justice concerns.

# Received vote in Senate

## AAC Workforce Development (SB 881)

- Establishes an Office of Workforce Strategy that can assist the state with clean energy-related workforce development.

GC3 #10: Workforce for renewable heating and cooling

# Voted out of Committee: No vote in either chamber

## SB 884 AAC Transportation-related Carbon Emissions

### A Clean Transportation Future for Connecticut

TCI-P would reduce on-road transportation GHG emissions by 26% between 2023 to 2032



- ➔ Climate Change is here and now; CT is on track for 5X increase in 90°+ days by 2050
- ➔ Transportation is the largest source of GHGs, particulate pollution and smog
- ➔ Transportation emissions can increase risk of premature death, asthma, cardiovascular damage, and developmental and reproductive harm
- ➔ Harmful emissions disproportionately impact disadvantaged communities located along transportation corridors



- ➔ Proven concept of a regional market-based program to reduce CO<sub>2</sub> emissions from gasoline and on-road diesel
- ➔ Declining cap guarantees 26% reduction in CO<sub>2</sub> from on-road transportation from 2022 to 2032
- ➔ Allowance market incentivizes innovation and cost-effective emissions reductions
- ➔ TCI-P furthers multiple policy goals at least cost to consumers and businesses



- ➔ Reduce emissions and pollution, mitigate climate change impacts, improve public health, and promote more equitable economic development
- ➔ Invest \$1 billion in clean transportation solutions between 2023 and 2032
- ➔ More than 50% of investments to benefit overburdened, underserved communities
- ➔ Investments will modernize the transportation system, create new trails and active transport infrastructure, accelerate bus, car, and truck electrification, and improve broadband as just a few examples

- **Governor's Bill.** AAC Climate Change Mitigation and Home Energy Affordability (SB 882)
- Codifying the zero-carbon energy supply by 2040 goal in statute and requiring renters to provide energy use information on their properties with the option for homeowners to also disclose this information.

Executive Order 3

GC3 #5 Expand consumer education to increase mitigation program uptake

GC3 #8: Education on zero- and low-carbon technology;

GC3 #12: 66 percent zero-carbon electricity supply by 2030



- AAC The Establishment of Energy Use Building Standards for Voluntary Adoption (HB 6572)
  - Allows municipalities to establish a requirement that new or substantially renovated buildings over 40,000 square feet demonstrate that they use at least 10% per square foot less energy than maximum levels permitted under the state building code (i.e., a “stretch code”)

GC3 #7: Building heating and cooling energy conservation

- AAC Emission Standards for Medium and Heavy-Duty Vehicles (SB 931)
  - The bill requires the Department of Energy and Environmental Protection commissioner, by December 31, 2021, to assess the energy, environmental, and air quality impacts of adopting California's medium- and heavy-duty vehicle standards in Connecticut.

GC3 #16: Maintain increasing fuel economy and low- and zero-emission standards

GC3 #22: Zero-emission medium- and heavy-duty vehicles

## Voted out of Committee: No vote in either chamber

- AAC the Solicitation of Biogas Injection Proposals from Anaerobic Digestion Facilities (HB 6409)
  - Allows DEEP to solicit proposals from anaerobic digestion facilities to make biogas suitable for injecting into the state's natural gas distribution system.

GC3 #42: Increase farm energy production and reduce usage

GC3 #15 Promote responsible and just materials management. Consider implementing the recommendations of the Connecticut Coalition for Sustainable Materials Management (CCSMM) to address both the climate impacts of waste generation and environmental justice concerns.

# Climate Adaptation and Resilience



# Became Law

- PA 21-115
- AAC Climate Change Adaptation
  - Authorizing municipalities to create stormwater authorities; adding flood prevention and climate resilience to the purview of municipal flood and erosion control boards and clarifying they can use their existing special assessment authorization to cover operations and maintenance costs; and expanding the Green Bank to include an Environmental Infrastructure Fund to finance adaptation and resilience projects.

GC3 31 Funding for natural resources

GC3 32 Protect and enhance the ecosystem services value of wetlands using sound science and adaptive management strategies

GC3 33 Communicate the value of wetlands to Connecticut home and business owners

GC3 34 Protections for wetlands under a changing climate

GC3 35 Protect the future ecosystem services value of inland waters under a changing climate

GC3 36 Re-establish free-flowing character and connectivity of inland waters and hydrological connectivity

GC3 50 Advance priority planning tasks related to resilient infrastructure in Connecticut

GC3 55 Build state governance for financing and funding resilience

GC3 56 Identify and generate revenue sources to pay for resilience projects and programs

GC3 57 Environmental Infrastructure Fund at Green Bank



# Became Law

- PA 21-88
- AAC Certain Soil Related Initiatives (HB 6496)
  - expands the Council on Soil and Water Conservation's charge to include advising the DEEP on soil health matters and implementing related programs.

GC3 #44: Improve soil health practices on all landscapes through technical assistance and training, education and outreach, and leveraging federal funding



# Became Law

- PA 21-155
- AAC Enhancements to Certain Agricultural Programs (HB 6385)
  - Includes urban and nontraditional farming practices as indicated purposes for the Department of Agriculture's transition and viability grants.

GC3 #45: Build urban agriculture for sustainability



# Became Law

- PA 21-187
- AAC Education and Training in Exertional Heat Illness for Coaches, Parents, Guardians and Students (HB 6492)
  - requires any person with a State Board of Education coaching permit who coaches intramural or interscholastic athletics to complete an exertional heat illness awareness education program

GC3 #51a: 51a. Develop guidance for schools, day cares, and youth sports teams for prevention of heat-related illness and death.



- AAC Geographic Information Systems (HB 6647)

- Establishes an Officer position to oversee a new GIS Office, and its staff, within the Office of Policy Management (OPM) and GIS Council to consult with OPM

GC3 #50: Advance priority planning tasks related to resilient infrastructure in Connecticut

GC3 #53: Prepare public and private drinking water systems for climate impacts

GC3 #54: Plan for climate change in emergencies and incorporate vulnerable populations

# Senate supported/ No vote in House

- AAC the State Treasurer and Climate Change and Coastal Resiliency Reserve Funds (SB 971)
  - Expands the options municipalities have to invest climate change and coastal resiliency reserve fund assets by allowing them to invest in any trust fund the state treasurer holds, administers, or invests.

GC3 #56: Identify and generate revenue sources to pay for resilience projects and programs



# House supported/ No vote in Senate

- AAC The Commercial Property Assessed Clean Energy Program (HB 6571)
  - This bill expands eligibility for the Green Bank's Commercial Property Assessed Clean Energy Program (C-PACE) by allowing the program to finance, for qualifying commercial real property, the installation of (1) zero-emission vehicle refueling infrastructure and (2) resilience improvements.

GC3 #21: Transportation electrification and transit infrastructure

GC3 #56: Identify and generate revenue sources to pay for resilience projects and programs